

Remarks

1. Claim status

Claims 1-14 are pending and have been rejected. Claims 1-3, 5-8, 10-11, and 13-14 were rejected under 102(b) as being anticipated by *Karinkanta* (US 3,964,872). Claim 4 was rejected under 103(a) as being unpatentable over *Karintanta*. Claims 9 and 12 were rejected under 103(a) as being unpatentable over *Karinkanta* and further in view of *Kovar* (US 5,882,939).

2. Claim amendments

All claims have been amended to clarify the analyte-bearing sample is, and remains during extraction, in the liquid phase. This amendment is clearly supported by the specification, which makes clear the analyte-bearing sample is in the liquid phase, identifying the fluid flow of the analyte-bearing sample and agitation of the analyte-bearing sample in the tubular member 100 to induce contact between the analyte-bearing sample and the sorptive coating:

Pump 320 is actuated, pumping analyte-bearing sample 250 from vessel 200, through tubular member 100, and terminating at collection vessel 340. Analyte-bearing sample 250 flows through tubular member 100 for a predetermined period of time, during which time at least one analyte is extracted. Once the specified time has elapsed, pump 320 terminates. If equilibrium is not reached before terminating the fluid flow through system 310, passive extraction has been performed.

In both active and passive extraction, the rate of fluid flow can effect the extraction of analytes. In order to achieve reproducible results, a constant flow rate is necessary. The shape of the liner, including length, inside diameter, and irregularity, has an effect on optimum fluid flow rate, which can be determined experimentally.

Assembly 300 and alternative assembly 310 are not practicable when analyte-bearing sample 250 has a volume less than or equal to the internal volume of tubular member 100. Instead, the full volume of analyte-bearing sample 250 is retained within tubular member 100. As depicted in Figure 3, both inlet 102 and outlet 104 are plugged, with analyte-bearing sample 250 retained within tubular member 100. Plug 180 is inserted into outlet 104, preventing fluid from passing through outlet 104. Analyte-bearing sample 250 is fed to passageway 108, and

plug 180 is inserted into inlet 102. Tubular member 100 is then agitated with a mechanical shaker (not shown) for a predetermined period of time, allowing sorptive coating 150 to contact analyte-bearing sample 250 and extract at least one analyte. When the volume of analyte-bearing sample 250 is small, the extraction should occur very rapidly. Plugs 180 are then removed from inlet 102 and outlet 104, releasing the remaining analyte-bearing sample 250.

Specification, p. 6, lines 12-33. Thus, no new matter is being introduced to the application.

3. **Rejection of claims 1-3, 5-8, 10-11 and 13-14 under 102(b) as being anticipated by Karinkanta (US 3,964,872)**

Applicants disagree with the Examiner's rejection of claims 1-3, 5-8, 10-11, and 13-14 under 102(b) and would show that the rejected claims are not anticipated by *Karinkanta* as the independent claims include a limitation not found in *Karinkanta*. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

a. **Rejected claims include the limitation of a sample remainder**

Rejected claims include the limitation that the sorptive coating referenced is selected to partition at least one analyte from the analyte-bearing sample, and therefore contain an element not found in *Karinkanta*. Applicant disagrees with the Examiner's prior assessment of this limitation, as the Examiner's position omits the portion of the limitation pertaining to "from the analyte-bearing sample" (emphasis added) which necessarily means there is and must be remaining material, specifically the portion of the sample with is not the selected analyte. This portion is, and must be, not subject to sorption so to resulting in leaving other material ("from") behind. Specifically, the Examiner argued that all analytes could be adsorbed and partitioned:

Applicant argues that in *Karinkanta*, the whole sample is adsorbed, rather than partitioning at least one analyte from the sample, but "at least one analyte" reads on "all analytes".

Office Action mailed February 23, p. 4, lines 9-11. This, however, does not account for the necessarily remaining sample after adsorption required for the steps in claims 1-6 and 13-14.

As previously argued, *Karinkanta* actually teaches away from the separating an analyte from the sample and instead teaches sorption of the entire sample. *Karinkanta* is clear that the

entire sample is adsorbed:

The sample is adsorbed on the porous surface as a small spot.

Karinkanta, Col. 1, Lines 58-59. The rejected claims, therefore, contain additional limitations not present in *Karinkanta* which preclude sorption of the entire sample, requiring instead selection of a sorptive material to extract an analyte from the sample and then removing the balance of the sample from the coated tubular member. Claims 1-6 and 13-14 include the limitation requiring the continued presence of some portion of the sample in the tubular member after extraction of the analyte, which is then removed from the tubular member, requiring:

sorptively extracting said at least one analyte from said liquid phase analyte-bearing sample;
removing said liquid phase analyte bearing sample from said coated tubular member;

(emphasis added).

Claims 1-14 further include the limitation that the sorptive coating necessarily partitions one or more analytes and leaves some portion of the sample not sorptively extracted:

said sorptive coating selected to partition said at least one analyte from said analyte-bearing sample;

(emphasis added).

b. Rejected claims require a liquid phase sample during analyte extraction

Additionally, the rejected claims, as amended, clearly include a further limitation not present in *Karinkanta* - that the analyte-bearing sample is in a liquid phase during extraction. *Karinkanta* necessarily does not include this limitation as *Karinkanta* is directly instead solely to sorption of gas-phase analytes. As noted by the Examiner, "Karinkanta teaches using the tube to inject a solvent-free sample into a carrier gas as a single spot." Office Action mailed February 23, 2010, p. 4, lines 12-13(citing *Karinkanta*, Col. 1, line 17 and Col. 2, lines 29-31). See also Col. 2, lines 29-41. *Karinkanta* clearly teaches "The function of the device to be described is thus to get a sample into the gas phase." *Karinkanta*, Col. 2, lines 39-41. The rejected claims, on the other hand, require the analyte-bearing sample to remain in a liquid phase.

4. Rejection of claim 4 under 103(a) as being unpatentable over *Karinkanta*.

Applicants disagree with the Examiner's rejection of claim 4 under 103(a) and would show that rejected dependent claims 4 is not unpatentable over *Karinkanta*, as shown above the independent claims include limitations not found in *Karinkanta* and from which *Karinkanta* teaches away - the use of a sorptive coating to partition a particular analyte or analytes from the sample, not to capture the entire sample and the liquid phase of the analyte-bearing sample.

5. Rejection of claims 9 and 12 under 103(a) as being unpatentable over *Karinkanta* and further in view of *Kovar*.

Applicants disagree with the Examiner's rejection of claims 9 and 12 under 103(a) as unpatentable and would show that rejected claims 9 and 12 by *Karinkanta* as the independent claims include limitations not found in *Karinkanta*, teach away from the limitations found in *Karinkanta* and from any modification of *Karinkanta* in view of *Kovar*. As amended, claims 9

and 12 both contain the limitations of a sorptive coating to extract a particular analyte or analytes from the sample, not to capture the entire sample, leaving some sample behind and that all such extraction is accomplished in the liquid phase, limitations not found in *Karinkanta* and, as detailed above, which *Karinkanta* teaches away from. Modification of *Karinkanta* to include the
5 roughened surfaces of *Kovar* does not alter this fact.

6. Conclusion

In light of the foregoing, the pending claims are patentable over the cited art as the art and proposed combinations each lack an element of the pending claims. Applicant requests the
10 issuance of a notice of allowability.